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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,998	02/07/2002	Max Shurgalin	13445-006001 / OG4 (6065)	4628
26161	7590	12/16/2003	EXAMINER	
FISH & RICHARDSON PC 225 FRANKLIN ST BOSTON, MA 02110			NGUYEN, TU T	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 12/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/068,998	Applicant(s) SHURGALIN ET AL.	
	Examiner Tu T. Nguyen	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: |

Serial Number: 10/068,998

Filing Date: 02/07/2002

Detailed Office Action

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4,11,14-19,27,35-39,40-43,49-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gander et al (Experimental measurement of group velocity dispersion in photonic fiber, Electronics Letters, vol. 35, No. 1, Jan 7, 1999, pp 63-64).

With respect to claims 1,40,54, Gander discloses a method for monitoring a photonic crystal fiber (PCF hereinafter). The method comprises: launching a test light (arc lamp, fig 1) into an end of the PCF (fig 1), detecting measurement light from the PCF (page 63).

Gander discloses measuring group velocity dispersion (GVD hereinafter) in the PCF. Gander does not explicitly disclose monitoring the quality of the fiber. However, it would have been obvious that the quality of the fiber can be identified based on the GVD of the fiber.

With respect to claims 2-4,11,41-43, since Gander discloses a white light (column 2, page 63), the claimed multiple wavelengths would have been obvious.

With respect to claims 14-15,53, Gander discloses all the claimed limitations (fig 1).

With respect to claims 16-17,19,35,38-39,49-50, it would have been obvious a design choice to modify Gander's method to monitor the fiber in different environments such as during the cabling or during the drawing to check the condition of the fiber before transferring to the next stage.

With respect to claim 27, refer to discussion in claim 1 above for monitoring the fiber and refer to discussion in claim 2 above for plurality of wavelengths.

With respect to claim 36, Gander discloses a length of PCF (fig 1).

With respect to claims 18,37,52, the claimed Bragg fiber or hollow core fiber would have been known. It would have been obvious to modify Gander's method for testing different type of fibers to reduce the setup time.

With respect to claim 51, Gander discloses the claimed limitation (page 63).

Claims 5-10,12-13,20-26,28-34,44-48,55-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gander et al (Experimental measurement of group velocity dispersion in photonic fiber, Electronics Letters, vol. 35, No. 1, Jan 7, 1999, pp 63-64) in view of Nelson et al (5,999,308).

With respect to claims 5,7,29,44, Gander discloses monitoring the PCF by directing a white light to the testing PCF and it would have been known that the test PCF comprising a bandgap so the claimed limitation "first wavelength and second wavelengths being related to a bandgap of the PCF" would have been obvious. Further, Nelson discloses using a test source having characteristics related to the test PCF (column 2, lines 60-67; column 3, lines 1-67). It would have been obvious to combine Gander's method with Nelson's teaching to facilitate the testing.

With respect to claims 6,9-10,12,32-34,45-47, Gander does not disclose the wavelengths being near or center of the edge of the bandgap of the PCF. However, it would have been obvious to modify Gander's method with different wavelength ranges for different testing purposes.

With respect to claims 8,13,20-21,23,25-26,28,30-31,48,55,57-58, determining a characteristic of a fiber based on the difference between the measurement data or measuring the time lapse between the launching test light would have been known. It would have been obvious to modify Gander's method with different known methods to test different characteristics of the PCF.

With respect to claims 22,24,56, it would have been obvious to modify Gander's method for detecting different types of defect to ensure the quality of the fiber.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T Nguyen whose telephone number is (703) 306-9185. The examiner can normally be reached on T-F 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (703) 308-4881. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Tu T. Nguyen
Primary Examiner
Group Art Unit 2877

11/21/03